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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/743,290	12/23/2003	Takeshi Shibata	5225.0254	7857

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EXAMINER	
YOUNG, CHRISTOPHER G	
ART UNIT	PAPER NUMBER
1756	

SHORTENED STATUTORY PERIOD OF RESPONSE	MAIL DATE	DELIVERY MODE
3 MONTHS	12/22/2006	PAPER

Please find below and/or attached an Office communication concerning this application or proceeding.

If NO period for reply is specified above, the maximum statutory period will apply and will expire 6 MONTHS from the mailing date of this communication.

Office Action Summary	Application No.	Applicant(s)	
	10/743,290	SHIBATA ET AL.	
	Examiner	Art Unit	
	Christopher G. Young	1756	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

1)☒ Responsive to communication(s) filed on *13 November 2006*.

2a)☐ This action is **FINAL**. 2b)☒ This action is non-final.

3)☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

4)☒ Claim(s) *1-14* is/are pending in the application.

4a) Of the above claim(s) *13 and 14* is/are withdrawn from consideration.

5)☐ Claim(s) _____ is/are allowed.

6)☒ Claim(s) *1-12* is/are rejected.

7)☐ Claim(s) _____ is/are objected to.

8)☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

9)☐ The specification is objected to by the Examiner.

10)☒ The drawing(s) filed on *23 December 2003* is/are: a)☒ accepted or b)☐ objected to by the Examiner.

Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).

Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).

11)☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

12)☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).

a)☒ All b)☐ Some * c)☐ None of:

1.☒ Certified copies of the priority documents have been received.

2.☐ Certified copies of the priority documents have been received in Application No. _____.

3.☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

1) ☒ Notice of References Cited (PTO-892)
2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
3) ☒ Information Disclosure Statement(s) (PTO/SB/08) Paper No(s)/Mail Date *3 sheets*.
4) ☐ Interview Summary (PTO-413) Paper No(s)/Mail Date. _____ .
5) ☐ Notice of Informal Patent Application
6) ☐ Other: _____.

DETAILED ACTION

Priority

1. Receipt is acknowledged of papers submitted under 35 U.S.C. 119(a)-(d), which papers have been placed of record in the file.

Information Disclosure Statement

2. The information disclosure statements (IDS) have been considered by the examiner.

Election/Restrictions

3. Claims 13 and 14 are withdrawn from further consideration pursuant to 37 CFR 1.142(b), as being drawn to a nonelected invention.

Claim Rejections - 35 USC § 102

4. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

> A person shall be entitled to a patent unless –
>
> (b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

5. Claims 1-12 are rejected under 35 U.S.C. 102(b) as being anticipated by Suguro et al., US 2002/0058400.

The instant application claims are described, taught and suggested by the prior art to Saguro et al. Within the prior art there is provided a method for manufacturing a semiconductor device comprising: preparing a stencil mask comprising a metal thin film

in which an opening for selectively irradiating charged particles to a semiconductor substrate is formed and a semiconductor layer formed on an irradiation surface of the metal thin film on which the charged particles are irradiated; and selectively irradiating charged particles to a semiconductor substrate using the stencil mask which is opposingly arranged on the semiconductor substrate.

The prior art provides many teachings through the figures and their explanations. Specifically refer to columns 3-6. There is also provided a method for manufacturing a semiconductor device comprising: preparing a stencil mask comprising a thin film in which an opening for selectively irradiating charged particles to a semiconductor substrate is formed and a plurality of covering layers formed on a surface of the thin film; and selectively irradiating charged particles to a semiconductor substrate using the stencil mask which is opposingly arranged on the semiconductor substrate.

There is also provided a method for manufacturing a semiconductor device comprising: preparing a stencil a mask comprising a silicon thin film in which an opening for selectively irradiating charged particles to a semiconductor substrate is formed and an insulating layer formed on an irradiation surface of the silicon thin film on which the charged particles are irradiated; and selectively irradiating charged particles to a semiconductor substrate using the stencil mask which is opposingly arranged on the semiconductor substrate.

There is also provided a method for manufacturing a semiconductor device comprising: preparing a stencil mask comprising a shielding film in which an opening for selectively irradiating charged particles to a semiconductor substrate is formed and an

resist film formed on an irradiation surface of the shielding film on which the charged particles are irradiated; and selectively irradiating charged particles to a semiconductor substrate using the stencil mask which is opposingly arranged on the semiconductor substrate.

Stencil masks comprising: a metal thin film in which an opening is formed; a semiconductor layer formed on a surface of the metal thin film; a stencil mask comprising: a thin film in which an opening is formed; and a plurality of covering layers formed on a surface of the thin film; a stencil mask comprising: a thin film in which an opening through which charged particles pass is provided; and a resist film formed on an irradiation surface of the thin film on which the charged particles are irradiated.

As shown in FIG. 7D, the silicon supporting substrate 101 and the silicon oxide film 102 are etched and the bottom surface of the opening 104 is exposed. Since the surface of the silicon thin film 103 to be a stencil mask is hardened, the damaging of the silicon thin film 103 can be reduced in the etching processing of the silicon supporting substrate 101 and the silicon oxide film 102, therefore a stencil mask which is cheaper and thinner can be manufactured. Moreover, also at the time when it is used for the actual ion implantation process, the deformation of the mask is reduced. Additionally, a careful review of the figures shows the fringe of the beam exposing the support structure around the stencil mask, as claimed.

6. Claim 1 is rejected under 35 U.S.C. 102(b) as being anticipated by Japan 07-153657.

The constitution of the Abstract discusses the irradiation width in the x-direction of the charged particle beam. It is clear that if the beam width is matched to the opening width that the fringe of the beam would expose the support structure.

Conclusion

7. The prior art made of record and not relied upon is considered pertinent to applicant's disclosure. The other prior art cited by the Examiner is the patent issued from the relied upon prior art, and a background reference filed by Applicants on the same day as the instant application.

8. Any inquiry concerning this communication or earlier communications from the examiner should be directed to Christopher G. Young whose telephone number is 571-272-1394. The examiner can normally be reached on Monday-Friday.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Mark Huff can be reached on 571-272-1385. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see http://pair-direct.uspto.gov. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

Christopher G. Young
Primary Examiner
Art Unit 1756

cgy